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WATER RESOURCES - SUPPLY
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COMMUNITY PLANNING

ROY F. WESTON
Environmental Science and Engineering Consultants
WEST CHESTER, PENNSYLVANIA
NEW YORK, NEW YORK PITTSBURGH, PENNSYLVANIA

Please Reply To
1736 LEWIS LANE
WEST CHESTER - PENNSYLVANIA 19380
AREA CODE 215 - 692-3030

ROY F. WESTON

HARRY H. CURTIN
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28 October 1966

Mr. Robert Gawthrop, Jr.
Gawthrop and Greenwood
119 North High Street
West Chester, Pennsylvania

Dear Mr. Gawthrop:

In reference to your letter of September 13, we have discontinued all work concerning Mr. Dick's wastewater ponds. Actually, most of the preliminary analyses as agreed upon by Dr. Hess of Lancaster Laboratories and our representatives, were completed before the 15th. Therefore, I will include the pertinent data in this letter along with our conclusions.

From visual observations, our personnel reported that the ponds seemed well constructed and in compliance with all State regulations concerning such facilities. Without a groundwater and substrata study, we cannot be sure that some wastewater infiltration does not occur. However, existing pond conditions would indicate this factor to be minimal. The oily and tar-like wastes dumped into the pond have partially sealed the bottom and sides of these basins, thus reducing losses to groundwater.

Our laboratory analyses confirm the findings of Dr. Hess. The enclosed table contains results of our analytical work. The interpretation of these data depends on one's viewpoint. Obviously, this waste could not be discharged to a stream, but it is not an unusually "potent" material to be discharged to holding ponds, especially in such a secluded area.

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An emission spectrographic analysis of the waste confirms the previous conclusions. Concentrations of the various elements found in the sample were not alarming, considering the type of waste impounded in the ponds.

Toxicity tests were conducted on neutralized pond wastewater, using a heterogeneous bacterial population of sewage origin. An aerobic bacterial system was employed and oxygen consumption was used as the evaluation parameter. It should be noted at this point that a supply of dissolved oxygen is essential for aerobic bacteria to exist. The neutralized wastewater, even at 100 percent concentration level, did not exert any inhibitory or biostatic effects on the microorganisms, but was readily utilized as food.

Please contact me or Mr. Glenn Johnson of our office if you have any questions on the data presented in this letter or other related matters.

Very truly yours,

William D. Sitman

William D. Sitman, P.E.

WDS:jc

Enclosure

Results of Wastewater Analysis[1]
Wastewater Holding Ponds - Property of Mr. William Dick
West Cain Township, Pennsylvania

Sample Designation	pH	Total Acidity[2] (mg/L)	Total Solids (mg/L)	Total Volatile Solids (mg/L)	COD[3] Unfiltered (mg/L)	COD[3] Filtered (mg/L)	Phenol (mg/L)
No. 1 - Mid-depth in the middle of Pond No. 1	3.7	1,000	8,140	6,870	18,000	12,200	100
No. 2 - Bottom portion in the middle of Pond No. 1	3.7	720	9,700	8,120	19,400	14,800	-
No. 3 - Effluent from Pond No. 1, contained in Pond No. 2	3.7	1,010	4,180	3,780	9,800	8,500	-

[1]Ref. - Standard methods for the Examination of Water and Wastewater.

[2]Total acidity - Quantity of alkali needed to bring the pH of the sample to 8.3, expressed as mg/L of $CaCO_3$

[3]Chemical Oxygen Demand.